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INTRODUCTION.

The general meteorological conditions which prevailed over the United States during January, 1884, as compiled from the reports from the regular and voluntary observers of the Signal Service, and from the monthly reports of state weather services, are shown in this REVIEW. Descriptions of the storms which occurred over the north Atlantic ocean are also given under "north Atlantic storms," and their approximate paths shown on chart ii. On this chart is also shown the limit within which icebergs were observed during January, and up to February 14th.

Remarkably low minimum temperatures occurred over the northern slope on the 4th, and in the Missouri, Mississippi and Ohio valleys, south Atlantic and east Gulf states during the 5th, 6th and 7th. These low temperatures were associated with high area number iii. described under "areas of high barometer." The minimum temperatures over the region from the upper lakes to New England, on the 24th, 25th and 26th, in connection with high area number vii., were also unusually low.

The mean temperature of the month averaged from 2°.3 to 8°.2 below the normal over the districts east of the one hundreth meridian, the region of greatest departure below the normal extending from the lakes to the Gulf of Mexico between the eightieth and ninetieth meridians.

The monthly precipitation was decidedly excessive in the districts on the Atlantic coast, while in the Pacific coast regions large deficiencies occurred.

Eighteen atmospheric depressions are described under "areas of low barometer." The paths of the centres of fourteen of these are shown on chart i.

In the preparation of this REVIEW the following data, received up to February 20th, 1884, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-two Signal Service stations and fourteen Canadian stations, as telegraphed to this office; one hundred and sixty-four monthly journals, and one hundred and fifty-one monthly means from the former, and fourteen monthly means from the latter; two hundred and seventy-one monthly registers from voluntary observers; forty-eight monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Indiana, Iowa, Kansas, Nebraska, Ohio, and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for January, 1884, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart iii. This chart shows that the region of greatest pressure covers parts of Colorado, Utah, Idaho, and Wyoming, where the barometric means exceeded 30.3, and a small area in central Texas, where a maximum mean pressure of 30.3 occurred. The region between the isobars of 30.25 embraces the greater part of the United States. The more easterly isobar of 30.25, is traced from northeastern Dakota in a southeasterly direction to northern Florida, and thence westward along the immediate Gulf coast to the boundary of Mexico. The more westerly isobar of 30.25 extends from the northern boundary of Washington Territory, first in a southerly direction to central Nevada, and thence southeastward to southern New Mexico. Over a small area (inclosed by the isobar of 30.25), including eastern Colorado and parts of adjacent states, the mean pressure was slightly below 30.25. The highest barometric mean for the month, 30.35, is reported from Salt Lake City, Utah.

The mean pressure for the month was least over the region from northern Michigan to the Canadian maritime provinces, and on the immediate coast of the Pacific north of Cape Mendocino, California. The lowest barometric means reported are 30.0 at Father Point, Quebec, and 30.03 at Sidney, Nova Scotia.

Compared with the mean pressure of December, 1883, there has been an increase over the whole country, except in Oregon and northern California, where a decrease ranging from .02 to .05 occurred. The increase has been greatest over the region from Illinois and Missouri southward to the Gulf of Mexico, where it varies from .10 to .13. An excess of from .07 to .11 also occurred in Nova Scotia. The changes elsewhere were less marked.

DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

Compared with the normal pressure, deficiencies of from .01 to .02 are shown in northern California and southern Oregon; in the eastern part of the lake region, in New England and the middle Atlantic states the mean pressure has also been below the normal, the departures varying from .01 to .07. In all other districts the mean pressure has been above the normal. The departures of excess were greatest in the Rio Grande valley, where they varied from .14 to .20; in the middle and southern slopes, Missouri valley and western Gulf states they varied from .07 to .13.

BAROMETRIC RANGES.

The monthly barometric ranges were greatest in the middle Atlantic states and New England, and smallest in Arizona. They varied in the extremes from .47 at Forts Apache and Grant, Arizona, to 1.83 at Albany, New York.

In the several districts the monthly barometric ranges varied as follows:

New England.—From 1.28 on the summit of Mount Washington, New Hampshire, to 1.77 at Eastport, Maine.

Middle Atlantic states.—From 1.49 at Lynchburg and Norfolk, Virginia, to 1.83 at Albany, New York.